

Experiments in Etching

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Overview

The way copper is usually etched is done using products easily obtained for home use. We usually follow standard PCB etching procedures using press-n-peel paper, an iron or heat press, an ferric chloride. Ferric Chloride is not easy to dispose of properly, and it requires careful handling procedure. Over the weekend of April 19, 2019, we (Brose and I) experimented a bit with a couple different etching styles and compared their results.

The two etchants we attempted were: * Ammonium Persulfate * This is sold as a PCB etchant, and unfortunately there isn't a whole lot of information about it. This was diluted according to package instructions. * Salt water etch * This involves a 1:5 salt water bath with a steel wire, copper, and current.

Note: We used brass (and bronze I think) and nickel silver for etching with these methods, so we're unsure of the effectiveness on pure copper.

Overall the experimentation was a failure. However, we indeed learned a lot. It's absolutely possible that these etchants would be much more successful with pure copper. I'd like to try the salt water etch again using only copper. We also learned that basically using ferric chloride provides the most consistent and quality results, so in the future we will seek to improve our methods using it.

Ammonium Persulfate

this stuff is weird.

Salt Water Etch

instructables. two batteries not enough. used ac/dc adapter (9v 100mA) and it worked. made sure polarity is correct. not bad. might be better with pure copper.



References

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